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Implementation of a community-based nutrition program in the community feeding center: a case study from Bantul

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Abstract

Background: Malnutrition among children becomes one of the public issues in the population. Community-based nutrition programs provide opportunities to improve current child nutrition and in later life. Objective: To explore the implementation of a community-based nutrition program in Sedayu Subdistrict, Bantul District.
Methods: A qualitative study with a single study case was conducted between March and May 2017 in the community feeding center in Argorejo Village, Sedayu Subdistrict, Bantul District. Data were collected from a focus group discussion among mothers of children under-fives, in-depth interviews to community health workers and a nutritionist, and observation during the program activities. Analysis was done by developing coding and themes on the implementation of the program.
Results: Several activities were identified in the community-based nutrition program such as anthropometric measurement, nutrition counselling and education, providing healthy snacks during the program, and weekly food supplementation distribution to targeted children. Facilitators of this program included active participation from community health workers, acceptance and support from the community, and self-subsistent food supplementation. Meanwhile, the barriers of this program were budget allocation, limited numbers and time of health workers, and lacked tools and facilities. Conclusions: Community-based nutrition program in the community feeding center was a community-driven program that is from and to the community. The sustainability of this program needs a strong commitment from the government, multi sectoral stakeholders, and the community.

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Introduction

Children are the beginning phase of sustainable development. They have the rights to grow healthy, safe, happy, educated, and free from poverty. In the Sustainable Development Goals (SDGs), children are important targets of the strategies and action plans (Bappenas and UNICEF, 2017). Nevertheless, stunting, wasting, and underweight were commonly found among children under-fives in Indonesia with the prevalence of 31%, 10%, and 18%, respectively (NIHRD, 2019).

The first few years of life is a key link between early period and adulthood in which developing programs to optimize the early nutrition becomes highly important (Schwarzenberg & Georgieff, 2018). The community-based nutrition program is one of the approaches that can be directed to deliver promising opportunities for the overall health and nutritional status of children. In general, the program combines horizontal and vertical approaches synchronizing the need-based issues in the community and evidence-based support from the policymakers (Shrimpton & Vaidyananthan, 2017). In Indonesia, integrated health posts (posyandu) and community feeding centers (pos pemuliha gizi) have served as community-based nutrition programs during the last few decades.

A national, community-based program conducted in Iran revealed that there were several constraints in the program implementation, such as irregular distribution of food supplementation, insufficiency of health workers, inadequate training of participants, and sharing food supplementation within the families (Ghodsi et al., 2017). A study in community feeding center in Aceh showed that a limited number of nutritionist workforces and lacked tools and facilities might influence the number of severely malnourished children in the affected area (Tarmizi, Sudargo, & Sugiharto, 2016).

In 2016, severe acute malnutrition in Sedayu Subdistrict was among the highest in Bantul District (0.8%) (Department of Health of Bantul District, 2016). Previously, several child nutrition-related studies have been conducted in Sedayu Subdistrict (Nurunniyah & Sugesti, 2016; Paramashanti, Paratmanitya, & Marsiswati, 2017; Supriyanto, Paramashanti, & Astiti, 2018). Only one qualitative research was done in Sedayu Subdistrict exploring the breastfeeding practice among working mothers using a phenomenology approach (Anggraeni, Nurdiati, & Padmawati, 2015). Our study would be the first qualitative study to explore the implementation of a community feeding center with a single case study in Argorejo village, Sedayu Subdistrict, Bantul District, Daerah Istimewa Yogyakarta.

Methods

This study used a qualitative design and was conducted in a community feeding center in Argorejo Village, Sedayu Subdistrict, Bantul District, Daerah Istimewa Yogyakarta, Indonesia. Argorejo village had a total area of 7.23 km2 and was located 0.5 km to the Sedayu Subdistrict capital and 10.0 km to the Bantul District capital. The village consisted of 13 sub-villages and 72 neighborhood associations. As many as 13,102 people resided within the village (BPS Bantul, 2018).

The data collection took place between March and May 2017. The study was part of a study titled "Effect of the integration of child nutrition and stimulation development intervention on child nutritional status and development in Bantul District" which was published elsewhere (Paramashanti & Sulistiyawati, 2019).

We observed a community feeding center located in Argorejo village in Sedayu Subdistrict. Notes were made by a researcher (NPP) during the observation from the program's preparation until closing which lasted around 90 minutes. A nutritionist from the primary health center who was in charge of the community feeding center's program was interviewed at her office in the primary health center by one researcher (BAP). Two lady health workers were interviewed after the program ended by the other researcher (S). Meanwhile, six mothers who participated the feeding center were invited to a focus group discussion conducted by enumerators consisted of three last-year undergraduate nutrition students. All of the participants were asked for their consent and this study was ethically approved by the Ethical Committee of Universitas Alma Ata

(KE/AA/IV/147/EC/2017).

All transcripts were coded based on the literature and program flow. All researchers (NPP, BAP, and S) discussing the data for reaching the agreement on final themes by grouping and abstracting of the data.

Results and Discussion

There were two community feeding center (CFC) located in Sedayu Subdistrict. One was in Argodadi village and one was in Argorejo village. Both CFCs were managed by Sedayu II Primary Health Center (PHC). Our study was focused on one CFC which was located in Argorejo village.

Targeted children

Criteria for participants included in this CFC were children aged 6-59 months. The nutritional screening was conducted by health practitioners from Sedayu II PHC. The participants were recruited based on their nutritional status and household economic status. Targeted children were those who had weight-for-age Z-score between -3.0 SD and <-2 SD or underweight, and weight-for-age Z-score <-3 SD or severely underweight. Prioritization was made for those who were the most undernourished and economically disadvantaged.

In a normal setting, the nutritionist stated that there were no special criteria for children under-fives to be included in this program in terms of their economic status. All children who suffered from undernutrition must be treated. However, due to outpatient considerations and the limited amount of funds allocated for this program, children with poor families took precedence.

The nutritionist, lady health workers, and local village officials maintained the communication to coordinate whether the child was appropriate to be targeted in this program. For children coming from families which were classified as capable but had malnourished children, CFC program was emphasized at home visit counselling. This was because they were capable enough to meet their nutritional needs. Meanwhile, the criteria for children who completed the CFC program was when their weight-for-height and weight-for-age became normal. Normally, the program was held for a minimum of 90 days for the child meals.

Based on the focused group discussion (FGD) results, it appears that mothers' knowledge was still lacking. When being asked about what they know about their child nutritional status of underweight, mothers' answers is as follows:

"…children do not want to eat…"

"…yes, the same… do not want to eat… hehehe…"

"…underweight is low body weight..."

Based on previous studies, maternal knowledge has been associated with child feeding and nutritional status (Agize, Jara, & Dejenu, 2017; Biks, Tariku, Wassie, & Derso, 2018; Simanjuntak, Haya, Suryani, Khomsan, & Ahmad, 2019). Mother's knowledge might also increase the positive intention of purchasing healthy food for their children (Chien, Chien, Chang, & Chen, 2018). Besides, father's and grandmother's knowledge were also linked to child nutrition (Bilal et al., 2016; Karmacharya, Cunningham, Choufani, & Kadiyala, 2017). When mothers, supported by other family members, have adequate knowledge, they tend to have a positive attitude towards child nutrition, thus practicing healthy food choices, preparation, and feeding. As a result, the child nutritional status will be improved. A previous study showed that mothers who were supported by their husbands and mothers were more likely to practice exclusive breastfeeding to their infants (Ratnasari et al., 2017). Moreover, when mothers received nutrition education by trained cadres, their child's body weight could also be improved (Paramashanti & Sulistiyawati, 2019).

The compliance of mothers of children under-fives in this program was varied regarding the food supplementation. Most of them practiced as suggested by the nutritionist and lady health workers. However, some of them gave the food supplementation not only to their children but also to other family members.

"…instead of becoming stale…ee, Sis… it's better to eat…"

Food supplementation consumption among young children is often related to the compliance of mothers to feed their children.

By referring to Adelasanti and Rakhma (2018), maternal compliance with child food supplementation could be affected by the maternal level of education, knowledge, occupation, household income, and size of family members. In general, the compliance of dietary patterns referring to the World Health Organization (WHO) was influenced by economic status. For this issue, low and middle-income countries remained struggling to meet these goals (Mazzocchi, Brasili, & Sandri, 2008). Household poverty could be the reason behind intrahousehold food sharing (Ghodsi et al., 2017). As participants in this study were the targeted children from poor families, we assumed that the low compliance of food supplementation in our study was influenced by the level of economic status. Families with low purchasing power may share the food supplementation with other family members to fulfill their daily meals. Consequently, the undernourished child may not get the whole food supplementation that was aimed at him/her; thus, their dietary adequacy and nutritional status would remain unchanged.

Program activities

The Community feeding center (CFC) opened every Friday. During the observation day, the CFC was opened at 9.30 am. Mother-child pairs came one by one or in a small group of neighbors. After coming and filling the attendance sheet, children were weighed and given high energy and protein biscuits. There was no length or height measurement on the day of observation.

The biscuits were produced by the Indonesian Ministry of Health. Food supplementation in a form of biscuits for undernourished children aged 6-59 months was specifically formulated and fortified with multiple micronutrients. Each biscuit pack consisted of four biscuits (40 g) which contained 160 calories, 3.2-4.8 g protein, 4.0-7.2 g fat, vitamins (A, D, E, K, thiamine, riboflavin, niacin, pyridoxine, B12, folic acid) and minerals (iron, iodine, zinc, calcium, sodium, selenium, and phosphor) (Ministry of Health of Indonesia, 2017).

Mothers and children were seated on the bamboo mat on the floor and provided with educational toys for their development. Toys included building blocks and other small toys for stimulating fine motor, cognitive, and social development. Besides the limited number of toys, none of the toys or games was used for gross motor stimulation. Based on Goldstein (2012), play is the key aspect for young children to reach their full potential. Playing during early childhood may provide emotional and behavioral, social, and physical benefits while toys help invite and prolong play as well as maximize the benefits of playing.

Generally, the educational session was held by health practitioners from Sedayu II PHC. The nutritionist usually delivered information on how to select and to prepare nutritious food, personal hygiene, and healthy lifestyle. Moreover, lady health workers also participated in delivering the messages although, most of the time, there was no media used during the educational session. Nutrition education is not only a knowledge transfer but a combination of educational approaches involving various activities (Kattelmann, 2014). Communication in nutrition education is crucial. Effective nutrition education should consider multiple approaches which may improve the effectiveness of disseminating nutrition information such as involving participants in active communication or using information and communication technology (Rao, 2009).

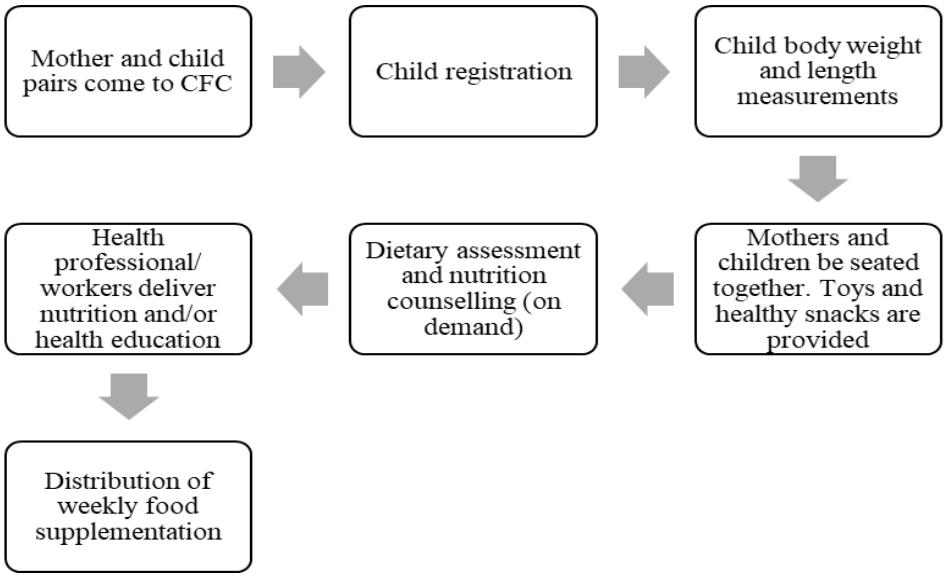

Figure 1 Program activity process at the community feeding center in Argorejo village

Next, a cooking class was normally demonstrated by the nutritionist. The menu has given at the cooking class aimed to enable mothers to practice how to process food provided in the form of food that was attractive to children but also maintained the nutritional value. However, at the time of our observation in the field, there was no educational session and cooking class held. The main reason was that the nutritionist could not attend the CFC until the end of the event.

There was one nutritionist at Sedayu II PHC. The nutritionist was in charge of villages under the Sedayu II PHC working area which was Argorejo and Argodadi villages. In both villages, there was a total of 24,215 population (BPS Bantul, 2018). On the other hand, the strategic targets on human resources in health settings have been set in Indonesia. The ratio of nutritionists in the 100,000 population is set to 48 nutritionists in 2019, and 56 nutritionists in 2025 (Ministry of Health of Indonesia, 2011). Therefore, by referring to the targeted number of nutritionists per 100,000 population in 2019, Sedayu II PHC needs 12 nutritionists for their working area or 7 nutritionists for Argorejo village. The limited number of nutritionists may increase the workload of the existing nutritionist and reduce the quality of service.

As the program organizer, Sedayu II PHC was responsible for providing food that would be distributed to undernourished children under-fives registered at CFC. Besides providing nutritious food to the targeted children, routine distribution of food supplementation was expected to have an impact on improving participation at the CFC. The local-based food for the supplementation was purchased from local sellers within neighborhood area. It usually consisted of mung beans, chicken, catfishes, eggs, dairy milk, and bananas. The food supplementation was given for a period of one week with a budget of 25,000-30,000 Indonesian rupiahs (IDR) per child. Therefore, budgeting was one of the most important factors of this program. The nutritionist stated that the community-based nutrition program at CFC depends on Regional Expenditure Budget (APBD) from the village government and the health operational budget.

"…budget for food supplementation comes from APBD from village, then there was budget from health operational budget…" (The nutritionist)

The nutritionist also explained that budgeting was the barrier to CFC's program implementation.

"…one of the biggest barriers was budgeting. Sometimes we used budgeting for food supplementation. So, how can we invite

them (to CFC) without giving them any food. If the food supplementation can be delivered, this program will continue, but if there is no food supplementation, then this program will be stopped…" (The nutritionist)

Early in 2017, the nutritionist stated that there was a hampered procurement causing the food supplementation could not be distributed to the targeted children. As a result, the CFC only provided biscuit supplementation. The nutritionist and lady health workers were hoping that the government could have special attention by allocating special budgets, facilities (e.g., scaling weight, length board, stadiometer), and multisectoral cooperation.

As with any other wide coverage program which are under government affiliations, the long-term sustainability of a community-based nutrition program needs sufficient human and financial resources for its continuation. A collaboration with other sectors such as civil society organizations (e.g., Department of Education) and non-government organizations may give additional benefits in the context of program implementation (Shrimpton & Vaidyananthan, 2017).

The nutritionist explained that the monitoring of CFC program was held every week by checking the bodyweight of children and reports from the lady health workers regarding food supplementation distribution. The nutritionist also evaluated the dietary intake of children. By checking the weekly report book own by the nutritionist, we only found notes on child body weight and length or height.

In the implementation of a community-based nutrition program, especially those with food supplementation, there should be a sufficient number of health workforces to monitor the program. This monitoring process included supervising and controlling the provision of food supplementation (Ghodsi et al., 2017). Evaluation should be done to establish the evidence-based effectiveness of a program. However, in a limited setting where resources are inadequate, rigorous evaluation could not be performed (Wight, Wimbush, Jepson, & Doi, 2016). As we mentioned above, there was a limited number of human resources in Argorejo CFC. For this issue, it is not surprising if the monitoring and documentation process was not optimum causing the unavailability of one or more activities, such as nutrition education, cooking demonstration, documentation, and monitoring and evaluation of the community feeding center.

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Roles of health workers

Health professionals who were involved in the implementation of the community feeding center's program included a nutritionist, a general practitioner, village midwives, nurses, and an environmental health staff. The nutritionist is the person in charge of the nutrition-based community program. Based on our observation, only the nutritionist attended the program at CFC. However, due to another schedule, the nutritionist was unable to assist the program until finished. The program was continued by lady health workers (cadres) until it was over.

In addition to health professionals involved in this program, there were ten lady health workers who were responsible to help the program run. Normally, these ladies worked as cadres at integrated health posts (posyandu). By schedule and volunteerism, each lady health worker was scheduled to assist the community feeding center every Friday. Their involvement was voluntary without any form of honorarium.

"…since the beginning, I am happy being a part of the social work. I prioritize all the activities for others. I want to help. I have my satisfaction in helping many people even without any fee, you know…" (Lady Health Worker S)

Community health workers are usually volunteers to cover several families within the community area. Their roles include regular weighing, counselling, home visit, and/or the mediator between the community and closest health facilities. Special attention is needed to manage their workload whether they're paid or not (Shrimpton & Vaidyananthan, 2017). In most the integrated health posts (posyandu) and community feeding centers, lady health workers were not paid. Only a small number of them were rewarded from the local village budget if any. This could be the reason why there was only a limited number of lady health workers in the community.

Facilities

The CFC was conducted at the village office building in Argorejo village. There were varied responses from lady health workers regarding the location of CFC. One lady health worker showed that she was satisfied with the CFC condition while another lady health worker said that the facility was lacking.

"…it is quite good because we are back to the traditional culture…like sitting on a bamboo mat, there are some toys, measuring tools, everything is there…" (Lady Health Worker S)

"…the community feeding center was lacked accommodation, for now we use village office. In the village office, we must sit in the overhang, well… that was a room, but it was also used as the way through. So, basically, we are in the overhang…" (Lady Health Worker M)

Barriers in the implementation of community feeding center were also found in the limited availability of tools and facilities as well as unequally distributed tools across area, especially those with a restricted geographical areas (Tarmizi et al., 2016). Argorejo village was located in a semi-urban area, however, the CFC still had issues with the limited number and quality of tools and facilities. There was only one length board at the Sedayu II PHC so whenever there was a community-based nutrition program in the field, the nutritionist would bring the length board to the location of the program. Consequently, if there were several programs conducted at the same time, some of them might skip the utilization of the tools or facilities. Dacin was still used as the measuring bodyweight tool in the community feeding center. Dacin was manually operated by health workers which were highly dependent on the subjectivity of the measurers so sufficient training to operate dacin as well as calibrating it should be done regularly.

Supports from the community

The community were very welcomed to this program. They even promoted the program mouth-by-mouth explaining that CFC could help to treat malnourished children and when any people in the community found a case of an underweight child, they should report it to the health worker so that the child could receive proper and prompt treatment.

The community also helped with the CFC budgeting by raising the community self-subsistent.

"…sometimes, we also used money donated from the community to make lunch or snack…" (The nutritionist)

The implementation of community-based nutrition programs may vary across the geographical locations of services because the programs are driven by the community. Active participation and involvement from the community may play a significant role in the success of the programs (Shrimpton & Vaidyananthan, 2017). In the case of the current CFC, the community took part as active participants who did not only promote the program but were also ready to contribute their energy for cooking class preparation and donation for food supplementation. A few of them were also willing to be a part of the workforce as lady health workers.

Our study was limited by the coverage of the case because we only used a single case of a community feeding center in Argorejo village. However, we can still generalize the results of this study to other community feeding centers which applies for similar programs as in Sedayu Subdistrict. We also selected participants such as mothers of children under-fives, lady health workers, and a nutritionist to obtain various perspectives of the program so that we can picture the program in a more complex way.

CONCLUSION

The community-based nutrition program in the community feeding centers consists of several activities, such as anthropometric assessment, nutrition counselling and education, healthy snacks during the program, and weekly food supplementation distribution to targeted children. Enabling factors of this program includes active participation from community health workers, acceptance and supports from the community, and self-subsistent food supplementation whereas the constraints were budget allocation, limited numbers and time of health workers, and lacked tools and facilities. As a community-based nutrition program in

the community feeding center, this program is a community-driven program that is from and to the community. The sustainability of this program needs a strong commitment from the government, multisectoral stakeholders, and the community.

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